Reg. No.

B.E / B.TECH. DEGREE EXAMINATIONS, MAY 2023
Fourth Semester
IT18404-SOFTWARE ENGINEERING METHODOLOGIES
(Information Technology)
(Regulation2018 & 2018A)

Time:3 Hours   Max.Marks: 100

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Develop real-world software development projects.	4
CO 2	Assess software Projects responding to change and involving customer in the development process.	5
CO 3	Compare different software engineering methodologies.	5
CO 4	Assess the roles of software process.	5
CO 5	Adapt agile methodology in real world software engineering projects.	5

PART- A(10x2=20Marks)
(Answer all Questions)

		CO	RBT LEVEL
1	Justify the statement. Software does not wear out.	1	4
2	Identify the non functional requirements for MHC-PMS.	1	3
3	Show the use case diagram with include and extend associations for the use case payment.	2	3
4	Model the repository architecture for an IDE.	2	5
5	The tester is testing pet insurance website. Buying an insurance policy, adding another pet, providing quotes are all basic and critical functionality of the application. Which testing strategy is applied to check all the functionalities in the website?	3	3
6	List out the views or perspectives that are useful when designing and documenting a system's architecture?	3	1
7	Outline the roles and responsibilities of scrum master with neat diagram.	4	2
8	Compare plan driven development from agile based development	4	5
9	Using an example of a component that implements an abstract data type such as a stack or a list, show why it is usually necessary to extend and adapt components for reuse.	5	4
10	Show how COTS solution system is different from COTS integrated system.	5	4

PART- B (5x 14=70Marks)

		Marks	CO	RBT LEVEL
11 (a)	Suppose you have to develop a software for a client with risk factor involved in development at each stage. But the client is not in a position to define the detailed input and output requirements. In this situation which software model would you choose? Justify your answer with neat diagram.	(14)	1	3

(OR)

		Marks	CO	RBT LEVEL
11 (b)	You are interacting with the MIS department of a very large oil company with multiple departments. They have a complex legacy system. Migrating the data from this legacy system is not an easy task and would take a considerable time. The oil company is very particular about processes, acceptance criteria and legal contracts. For the scenario described above, which life cycle model would you choose? Give the reason and stages with neat diagram why you would choose this model.	(14)	1	3

		Marks	CO	RBT LEVEL
12 (a)	An automated ticket issuing system sells rail tickets. Users select their destination, and input a credit card and a personal identification number. The rail ticket is issued and their credit card account charged with its cost. When the user presses the start button, a menu display of potential destinations is activated along with a message to the user to select the destination. Once a destination has been selected, users are requested to input a personal identifier. When the credit transaction has been validated the ticket is issued. Identify the ambiguities or omissions in the statement and write the system requirements.	(14)	2	3

(OR)

		Marks	CO	RBT LEVEL
12 (b)	For the MHC-PMS, identify and propose a set of use cases that illustrates the interactions between a doctor, who sees patients and prescribes medicine and treatments, and the MHC-PMS.	(14)	2	3

		Marks	CO	RBT LEVEL
13 (a)	Build a layered architecture pattern for LIBSYS system.	(14)	3	3

(OR)

		Marks	CO	RBT LEVEL
13 (b)	Illustrate the golden rules stated by Theo Mandel that must be followed during the design of the user interface.	(14)	3	3

14 (a)	Product owner working in Boltech technologies does not have any experience in agile methodologies. He doesn't know the roles of the product owner. Help him by summarizing the roles played by product owner and make him to understand.	**(14)**	**4**	**2**

<div align="center">**(OR)**</div>

14 (b)	Explain how agile methodologies are scaled for the software development in an organization?	**(14)**	**4**	**2**

15 (a)	How can you develop an efficient system using systems of systems?	**(14)**	**5**	**3**

<div align="center">**(OR)**</div>

15 (b)	Illustrate on the various approaches that support software reuse.	**(14)**	**5**	**3**

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PART- C (1x 10=10Marks)
(Q.No.16 is compulsory)

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		Marks	**CO**	**BL**
16.	Develop an approach that would automatically integrate error messages and a user help facility. That is, the system would automatically recognize the error type and provide a help window with suggestions for correcting it. Perform a reasonably complete software design that considers appropriate data structures and algorithms.	**(10)**	**3**	**3**

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